

Nomination narrative

Introduction

Since 1897, Naval Hospital Bremerton (NHB) has been present in one form or another along the western shores of Puget Sound, Washington. The current hospital buildings opened in 1980, and are located along Ostrich Bay on a 49-acre campus. The 26-bed military treatment facility currently services more than 62,000 military health system beneficiaries, with the stated mission to 'keep our warfighters and their families, past and present, ready, healthy and on the job'. The hospital is accessed via Highway 3 in Kitsap County, and is located approximately midway between Naval Base Kitsap (NBK) Bremerton and NBK Bangor. Naval Hospital Bremerton is the parent command for three Branch Health Clinics, located at Puget Sound Naval Shipyard, NBK Bangor and Naval Station Everett. Also under the NHB umbrella are Occupational Health, Industrial Hygiene, Preventive Medicine and the Substance Abuse Rehabilitation Program (SARP).

In such an ecologically diverse region of open-ocean, old-growth forest, and surrounding mountain ranges, NHB has continually maintained high standards of environmental stewardship and has fostered environmental collaboration with community neighbors such as Native American tribal entities, local city and county agencies and other federal departments. From reclamation projects on existing campus grounds and shared beach/tribal clamming areas, to energy conservation, to strict regulation of hazardous material, the NHB and branch clinic staff of over 1,400 dedicated military, civilian, contractor and American Red Cross volunteer personnel have long been at the vanguard of compliant and proactive environmental stewardship.

Background

The sustainability program at Naval Hospital Bremerton (NHB) is managed by the Environmental Management Division of the Facility Management Department. For the past several years, the Environmental Division has deployed programs to improve the sustainability posture of the hospital. Our policies and procedures regarding sustainability, as reflected in NHB's Environmental Management System (EMS), are shared with all incoming staff during Command Orientation, which is conducted monthly for new employees. Staff, volunteers, guests, and beneficiaries receive information regarding environmental concerns and issues through Plan of the week (POW) notifications, Earth Day, and Energy Conservation awareness events. Through the continuous communication of information, NHB strives to change the culture and behavior of personnel, to encourage environmental stewardship at all levels.

Cost savings resulting from the hospital's sustainability programs helps to support the command mission by improving the efficiency and cost effectiveness of internal medical departments. The command utilizes established medical principles of continuous process improvement to assess and evaluate programs for sustainability opportunities, as well as improvement opportunities created by the availability of new technologies and revisions to applicable regulations and policies.

Summary of Accomplishments

Waste reduction program. Naval Hospital Bremerton partnered with Stryker Corporation, a medical materials and equipment manufacturing company, to collect and return FDA classified “single used devices” used in the operating room, instead of disposing of them as medical waste. After reprocessing, these devices are then available for purchase at up to a fifty percent reduction in cost as compared to new devices. Items included in this program include arthroscopic wands and shavers, bits, blades and burs, laparoscopic instruments, suture passers, trocars, ultrasonic scalpels, and ligature sealer/dividers. In FY2015 and FY2016, almost 2 tons of single use devices were recycled through this process, representing a cost avoidance of over \$2,000 in waste disposal. (This figure does not include the savings in purchase of new devices, which is discussed in a later section regarding green procurement).

The hospital also recycles various non-invasive medical devices, including compression sleeves, pneumatic tourniquet cuffs, pulse oximeter sensors, ECG leads and cables, blood pressure cuffs, splints, cervical collars, stethoscopes, and pressure infuser bags. At one point in time, all of these items were disposed of as solid waste, with associated costs and environmental impact. In FY2015 and FY2016, 250 lbs of waste were recycled in this manner.

The Histology department of the main laboratory supports the hospital’s sustainability program by recycling chemicals used in the laboratory processes. Alcohol stains and xylene are used in the preparation of patient specimen for analysis, and in many hospitals, the waste fluids generated are disposed of as hazardous waste. But at NHB, these solvents are recycled and reused many times over through use of a solvent still. Along with reducing waste volume, this process also significantly reduces the need and cost to purchase the large volumes of chemicals needed for these processes. In FY2015 and FY2016, a total of 130 gallons of xylene and 52 gallons of alcohol were recovered, representing a cost savings of over \$11,000 in procurement and disposal costs, as well as indirect reductions in manpower for product ordering, storage, handling, and inventory.

Qualified recycling program (QRP). Naval Hospital Bremerton aggressively utilizes the Navy’s regional qualified recycling program (QRP), enabling efficient recycling of used cooking and motor oil, antifreeze, printer cartridges, plastics, office paper, cardboard, scrap metals and lightbulbs, ensuring that these materials are not sent to the landfill. Additionally, the QRP is able to sell many of these waste products, helping to sustain the program through internally generated revenue.

Toxic chemicals reduction program. Naval Hospital Bremerton’s branch dental clinics located in Naval Station Everett, Naval Submarine Base Bangor, Puget Sound Naval Shipyard have deployed an amalgam collection filter to collect amalgam debris from the dental chairs. Amalgam fillings contain silver and mercury, heavy metals which can have major effects on the nervous system, and are therefore designated in Washington state as toxic waste. As such, there are environmental compliance rules to keep the amalgam out of waste water systems. The amalgam separator systems utilized at NHB dental clinics meet ISO 11143 standards and are certified to remove greater than 99% of mercury and other heavy metals from the dental clinic wastewater, which exceeds federal requirements. Once collected, the amalgam separator is sent

to an EPA approved recycler, rather than the more common practice of disposal as hazardous waste. Aside from the costs savings, recycling of amalgam waste helps to ensure that the heavy metal contaminants do not have the opportunity to enter any water systems.

Additionally, empty amalgam capsules, amalgam scrap, and other materials that came in contact with amalgam are collected and sent to a dental recycling facility to extract the heavy metals and mercury. In FY2015 and FY2016, a total of 190 lbs. of amalgam-containing waste was collected, from which 11 lbs. of mercury were recovered, representing a total savings of \$1,700.

Pharmaceutical Take Back Program. Chemicals in medications enter the environment through secretion and disposal of unused pharmaceuticals in sewers, septic tanks, and landfills. Treatment plants are not equipped to remove the pharmaceutical compounds before releasing into local waters. And disposal of pharmaceuticals into landfills only postpones the pollution of groundwater, since the chemicals will eventually migrate into the groundwater. Proper collection and disposal of unused and un-wanted pharmaceutical will reduce the amount of pharmaceutical compounds flowing into our waterways.

Naval Hospital Bremerton Pharmacy, in partnership with the Environmental Division, implemented an innovative program to safely handle discarded medications. A 'MedSafe' disposal container was placed in the outpatient pharmacy lobby, as well as the Naval Branch Health Clinic Everett and are available during normal hours of pharmacy operations for patients to discard used or outdated pharmaceuticals. This process ensures that pharmaceuticals are disposed of in a safe manner, and do not inadvertently enter the environment. This program also involves patient education and public relations efforts regarding the potential for abuse of medications and the importance of a safe collection and disposal. As a major patient portal, the deployment of a high-profile program such as this in the pharmacy sends a strong message to our patients and staff regarding our commitment to sustainability and environmental stewardship.

Green procurement program. The partnership with Stryker Corporation (discussed in detail in the previous "Waste Reduction" section) enabled the purchase of the reprocessed devices at a 50% savings as compared to the cost of brand new devices. In FY2015 and FY2016, this enabled the savings of over \$83,000 in procurement costs. Additionally, NHB materiel management staff have attended formal training regarding green procurement, enabling them to identify and purchase green products when appropriate.

Energy and water efficiency. Naval Hospital Bremerton was one of only two Navy military treatment facilities recognized by the Secretary of the Navy's Energy and Water Management Award program for fiscal year 2016. Naval Hospital Bremerton received a gold-level award, reflecting the command's "Very good to outstanding energy or water program". The award was a result of several different strategies, including energy awareness static displays, staff training, implementation of a formal command energy policy, attentiveness to culture and awareness, and installation of occupancy sensors for lighting and ventilation. Additionally, the completion of energy audits and recommended system modifications and replacements created a significant savings. These including the replacement of ventilation air handlers with modern, efficient units with sophisticated controls, installation of variable intensity LED lighting, replacement of obsolete electrical transformers, and installation of water-efficient restroom fixtures. Also, the hospital's maintenance contractor, Chugach, contributed to energy savings by taking timely and

decisive action to ensure facility equipment was appropriately maintained and tuned, and that deficiencies such as leaks or misadjusted controls were repaired promptly.